

SensoGate® WA 130 MH

User Manual



Sensor Lock-Gate



79573

Knick >

Warranty

Defects occurring within 1 year from delivery date shall be remedied free of charge at our plant (carriage and insurance paid by sender).

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Exclusions from Warranty

Wear parts (gaskets) and damage caused by improper use are excluded from warranty.

Return of Products

Please contact our Service Team before returning a defective device. Ship the cleaned device to the address you have been given. If the device has been in contact with process fluids, it must be decontaminated/disinfected before shipment. In that case, please attach a corresponding Declaration of Contamination (see Page 43), for the health and safety of our service personnel.

Safety Information

SensoGate® WA 130 MH Sensor Lock-Gate



Process-Related Risks

Knick Elektronische Messgeräte GmbH & Co. KG assumes no liability for damages caused by process-related risks known to the operator, which would in fact not permit the use of the WA 130 MH sensor lock-gate.

Be sure to observe:

Work on the sensor lock-gate must only be performed by personnel authorized by the operating company and specially trained for handling and operating the sensor lock-gate.

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Intended Use

SensoGate® WA 130 MH Sensor Lock-Gate

Intended Use

The SensoGate® WA 130 MH manual sensor lock-gate is used for installing a sensor for measurements in liquids. The sensor can be cleaned, calibrated or replaced under process conditions (pressure and temperature).

The operator can exchange process adaptations (Varivent, Tri-Clamp, dairy pipe, Ingold socket, BioControl) or convert the fitting for the use with gel sensors or liquid-electrolyte sensors.

The sensor lock-gate is suitable for sensors with an outer diameter of 12 mm:

- with gel electrolyte, length 225 mm, sensor head with Pg 13.5
- with liquid electrolyte, length 250 mm

The SensoGate® WA 130 MH sensor lock-gate allows:

- calibrating or adjusting the measuring system and cleaning the sensor in the running process
- replacing the sensor in the running process
- variable process adaptation by the operator at any time

Take account of the influences of humidity, ambient temperature, chemicals and corrosion.



Safe Use

If you are not sure whether the sensor lock-gate can be safely used for your intended application, please contact the manufacturer.

To ensure safe use of the equipment, you must follow the instructions given in this manual and observe the specified temperature and pressure ranges.

The SensoGate® WA 130 MH sensor lock-gate has been developed and manufactured in compliance with the applicable European guidelines and standards.

Compliance with the European Harmonized Standards for use in hazardous locations is confirmed by the EC-Type-Examination Certificate.

Compliance with the European guidelines and standards is confirmed by the EC Declaration of Conformity.

The sensors used must ensure proper separation of the ATEX zones.

There is no particular direct hazard caused by the operation of the device in the specified environment.

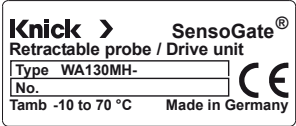
Intended Use

SensoGate® WA 130 MH Sensor Lock-Gate

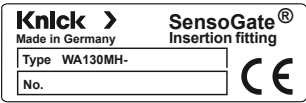
Rating Plates

SensoGate® WA 130 MH-N

Drive

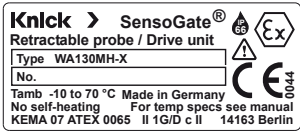


Process

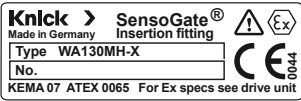


SensoGate® WA 130 MH-X

Drive



Process



Package Contents

SensoGate® WA 130 MH Sensor Lock-Gate

Check the shipment for transport damage and completeness.

The package should contain:

- Sensor lock-gate
- Outlet hose
- Documentation
- Specific test report

SensoGate® WA 130 MH Product Coding

		WA 130 MH- - 													
Explosion protection	Hazardous area Zone 0	X													
	Without	N													
Sensor	Solid electrolyte		0												
	Liquid electrolyte (pressurization possible)		1												
Gasket material	Elastomeric ring set F, FKM (Viton) FDA			F											
	Elastomeric ring set E, EPDM FDA			E											
	Elastomeric ring set G, FFKM/EPDM FDA			G											
	Elastomeric ring set H, FFKM/FFKM FDA			H											
Process-wetted materials*	1.4404 / 1.4404 / 1.4404 (electropolished)				G										
Process adaptation	Dairy pipe DN 50					C	1								
	Dairy pipe DN 65					C	2								
	Dairy pipe DN 80					C	3								
	Ingold socket, 1.4404, 25 mm (G 1 1/4")					H	0	A							
	Ingold socket 1.4404, 25 mm (G 1 1/4"), hygienic					H	1	A							
	Clamp 1.5", 1.4404					J	1	A							
	Clamp 2", 1.4404					J	2								
	Clamp 2.5", 1.4404					J	3								
	Clamp 3", 1.4404					J	4								
	Clamp 3.5", 1.4404					J	5								
	Varivent, 1.4404, for pipe, ≥ DN 50					V	1	A							
	Varivent, 1.4404, for pipe, ≥ DN 65 short, ≥ DN 80 long					R	2								
	BioControl size 50					L	1	A							
	BioControl size 65					L	2	A							
Immersion depth	Short							A							
	Long							B							
Connection	Without rinse connection, with 3m outlet hose								O						
	Rinse connection without electrical limit switches								P						
	Rinse connection with electrical limit switches								R						
	Without rinse connection, with electrical limit switches								S						
Housing material	Stainless steel / PP (< 6 bars operating pressure), not for superheated steam									1					
	Stainless steel / PEEK (< 10 bars operating pressure)									2					
Special variant	Without											0	0	0	
	Equipped with special grease (provided by customer)											0	0	1	

* Material combinations: Process-wetted part of calibration chamber / calibration chamber part wetted by rinse medium / immersion tube

Function Description

SensoGate® WA 130 MH Sensor Lock-Gate

The manually operated sensor lock-gate allows calibrating or adjusting the measuring system and cleaning the sensor in the running process. For that purpose, the sensor lock-gate can be moved between two positions:

- **PROCESS position:** Sensor located in the process medium.
- **SERVICE position:** Sensor located in the calibration/rinsing chamber.

In SERVICE position you can clean, maintain, calibrate or adjust the measuring system.



Caution!

When using sensors with gel electrolyte, the sensor lock-gate can only be moved with the sensor installed. Without sensor, the fitting is locked (safety function), i.e. you cannot press the red unlock button. You must completely screw in the sensor until the stop is reached.



Sensor in service position

The red unlock button is not pressed. In this position you can remove the sensor under process pressure and replace or clean it.

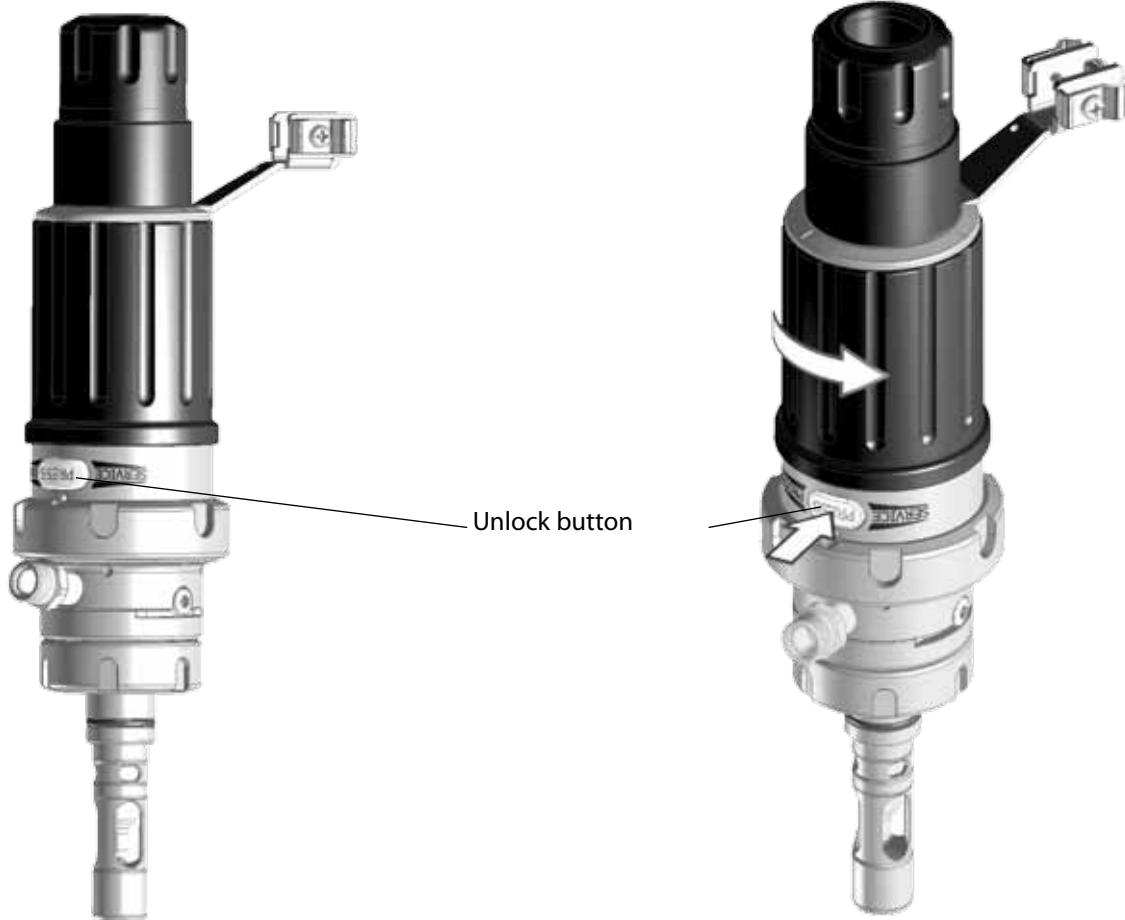


Moving to process position

Press the red unlock button and turn the turning handle clockwise. During the rotary movement the unlock button is automatically depressed. When the process position is reached, the unlock button pops out and mechanically locks the fitting.

Function Description

SensoGate® WA 130 MH Sensor Lock-Gate



Sensor in process position

The red unlock button is not depressed (measure position).

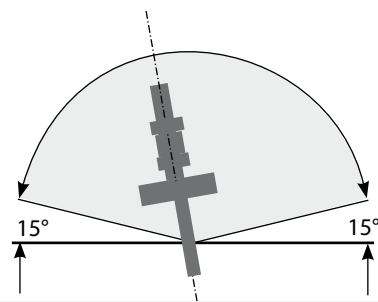
Moving to service position

Press the red unlock button and turn the turning handle counterclockwise. During the rotary movement the unlock button is automatically depressed. When the service position is reached, the unlock button pops out and mechanically locks the fitting.

In SERVICE position the measuring system can be calibrated or adjusted or the sensor can be cleaned. Through the optional rinse connection, different calibration and/or cleaning liquids can be transferred to the sensor located in the calibration chamber. These liquids leave the calibration chamber through an outlet hose, i.e. they are displaced from the calibration chamber by following liquids.

Installation

- Mounting angle 15° above horizontal:
- Mounting angle 360° (i.e. even upside down) for special sensors only containing thickened electrolytes which thus cannot flow.



Function Description

SensoGate® WA 130 MH Sensor Lock-Gate

Unlock Function

Emergency release



If the unlock function does not work (e.g. the red unlock button cannot be depressed), you can perform an emergency release.



Caution!

The emergency release disables the sensor monitoring, i.e. the sensor lock-gate can be moved without a sensor. It remains locked in service and process position.

Note:

Sensor lock-gates with gel-electrolyte sensors do not allow pressing the unlock button when no sensor is installed. This is not a fault but a safety measure.

If the unlock button cannot be moved in SERVICE or PROCESS position although the sensor is properly installed, you should check the sensor gasket and reposition it if required. If that does not help, you can perform an emergency release.

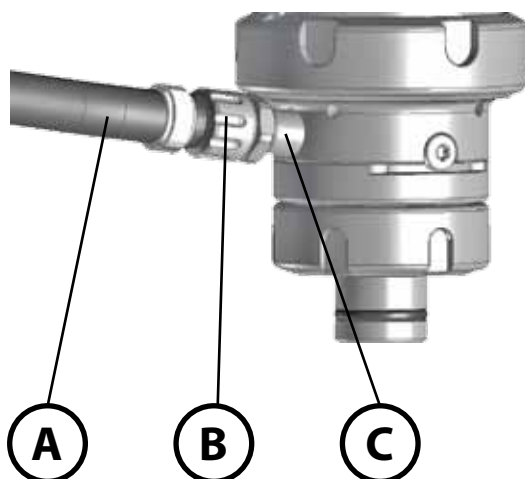
To do so, screw in the set screw (A) using an Allen wrench (2.5 mm) until the stop.

Now, you can unlock the button.

After the fault has been removed (maintenance, repair), you must screw back the set screw (A) until it fits flush with the outer surface of the fitting to ensure proper functioning of the sensor monitoring.

Installing the Outlet Hose

SensoGate® WA 130 MH Sensor Lock-Gate



Screw the outlet hose (A) with coupling nut (B) to the outlet port (C).

The outlet hose serves for draining the rinse or calibration solutions.

Note:

Also when you have a sensor lock-gate without rinse connection, you should install the included outlet hose because of the applied process pressure.

When the sensor moves into and out of the PROCESS position, pressure is build up in the fitting. Pressurized process medium that might have intruded is drained through the outlet hose.

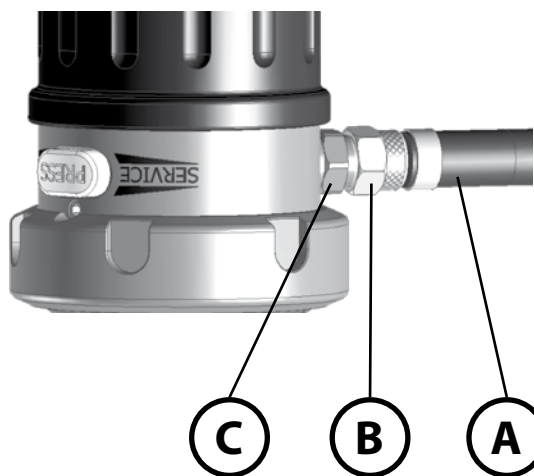
Specifications

Length: 3 meters

Nominal width: DN 8

Materials:	Hose	EPDM
	Connection nipple	PVDF
	O-ring 8 x 1.5	EPDM

Installing the Inlet Hose (Option)



Screw the inlet hose (A) with coupling nut (B) to the inlet port (C).

(If required, you can easily disconnect the inlet hose by screwing off the coupling nut (B) – you do not have to loosen cable clamps or the like.)

Specifications

Length: 3 meters

Nominal width: DN 6

Materials:

Hose	EPDM
Connection nipple DN 6	Stainless steel 1.4404
O-ring 8 x 1,5	EPDM

Max. temperature: +95 °C (momentarily 110 °C)

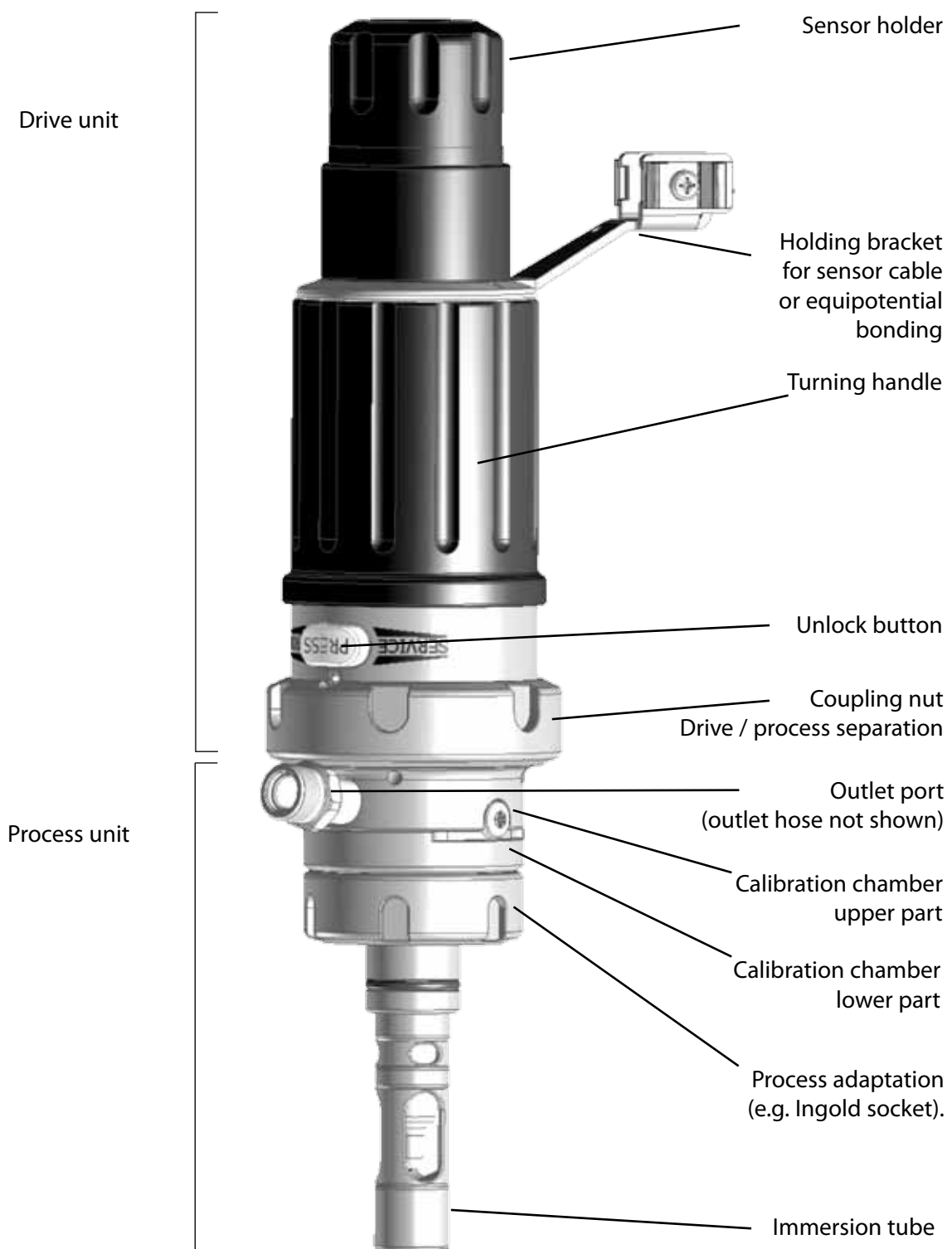
Note:

Do not use this hose for applications with super-heated steam. After you have disconnected the hose by screwing off the coupling nut (B), you can use the G¹/₈ internal thread in the inlet port (C) for suitable superheated-steam connections and hoses.

Build-up of the Sensor Lock-Gate

SensoGate® WA 130 MH Sensor Lock-Gate

The SensoGate® sensor lock-gate consists of 2 main units: drive unit and process unit.
The **drive unit** performs the required movements to move the sensor into and out of the process.
The **process unit** comprises the process-wetted calibration chamber as well as the process adaptation (e.g. Ingold socket or Varivent).
Drive unit and process unit can be separated by the operator (see Page 22).



Build-up of the Sensor Lock-Gate

Modules available: Rotary drives, immersion tubes, process adaptations

Rotary Drives

Sensors with
gel electrolyte

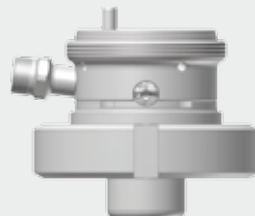


Sensors with
liquid electrolyte



Process Adaptations

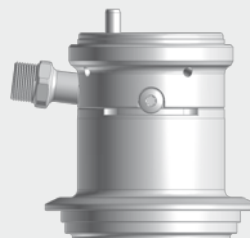
Dairy pipe screw joint



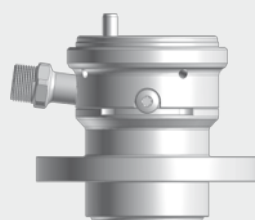
Tri-Clamp



Varivent



BioControl



Ingold socket



Immersion Tube

Available material:
• 1.4404



Maintenance Work on the Drive Unit

SensoGate® WA 130 MH Sensor Lock-Gate

The drive unit must be separated from the process unit, for example:

- for general maintenance or inspection
- to clean the calibration chamber, e.g. after a sensor has broken
- to change the sensor / calibration-chamber gaskets
- in the event of a technical fault of the drive unit.



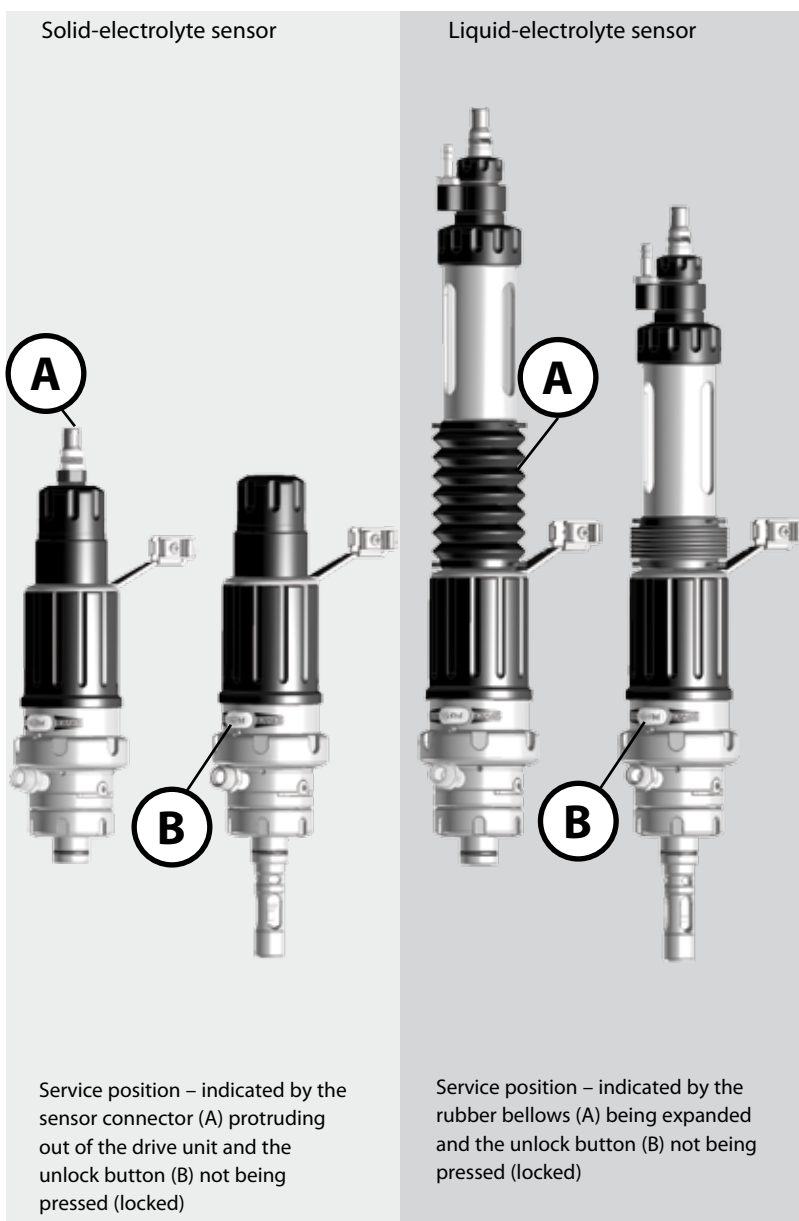
Warning!

To separate the sensor lock-gate safely from the process, make sure that it is disconnected from all process media and process pressure. Without drive unit there is no sealing to the process.

Caution!

Before working on the drive unit, make sure that the sensor lock-gate is in SERVICE position (see "Function Description" on Page 10).

Indication of SERVICE or PROCESS Position



Installing and Removing a Sensor

SensoGate® WA 130 MH Sensor Lock-Gate



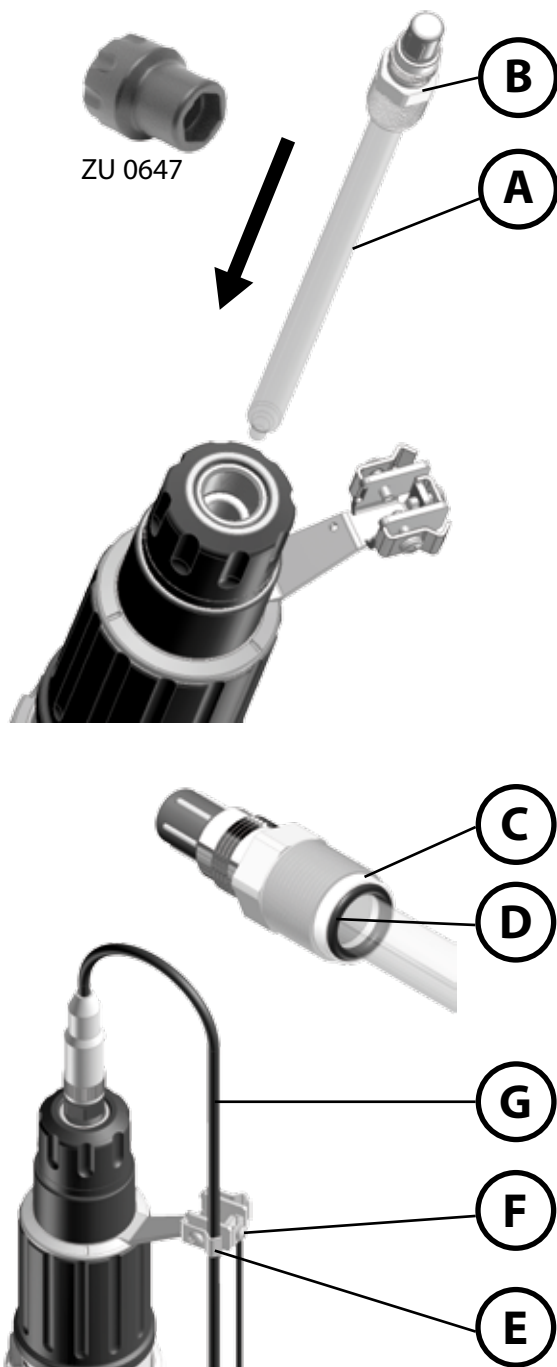
Sensors must only be installed or removed by trained personnel authorized by the operating company. **Make sure that the sensor lock-gate is in SERVICE position** (see "Function Description" on Page 10).

Be sure to follow the assembly instructions step by step!

Preparatory steps before using the sensor:

- Check whether the sensor is damaged (glass broken?).
Never install a damaged sensor.
- Check whether slide washer or O-ring on the sensor are damaged and replace if required.
- Remove watering cap from the sensor tip and rinse sensor with water.
- Internally pressurized sensors might have a silicone seal on the diaphragm (as transport protection). Remove this seal using the knife shipped with the sensor.

Installing a Gel-Electrolyte Sensor



Installing the Sensor

1) The sensor must only be installed in **SERVICE position**.

2) Use appropriate sensors (A) only:

Diameter: 12 mm. Length: 225 mm

Observe pressure resistance of the sensor

3) Check whether slide washer (C) or O-ring (D) on the sensor are damaged.

4) Screw in the sensor head (B) (19 mm, Pg 13.5) with a max. torque of 3 Nm (recommended tool: 19 mm, e.g. Knick ZU0647 wrench).

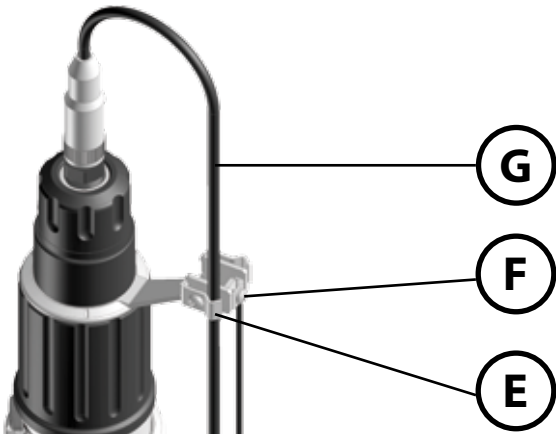
Note: When tightening the sensor, you must overcome the elastic force of the internal sensor monitoring.

5) Connect cable socket with cable (G). Hold the cable in a loop and fix it using clamp (E).

Caution! The cable loop must be long enough so that the cable does not impede the stroke movement of the fitting.

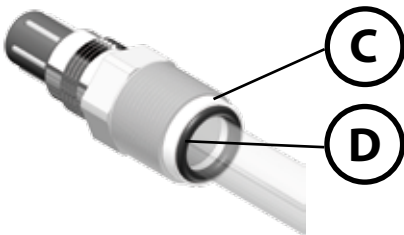
6) Connect equipotential bonding cable to terminal (F) (if required).

Removing a Gel-Electrolyte Sensor



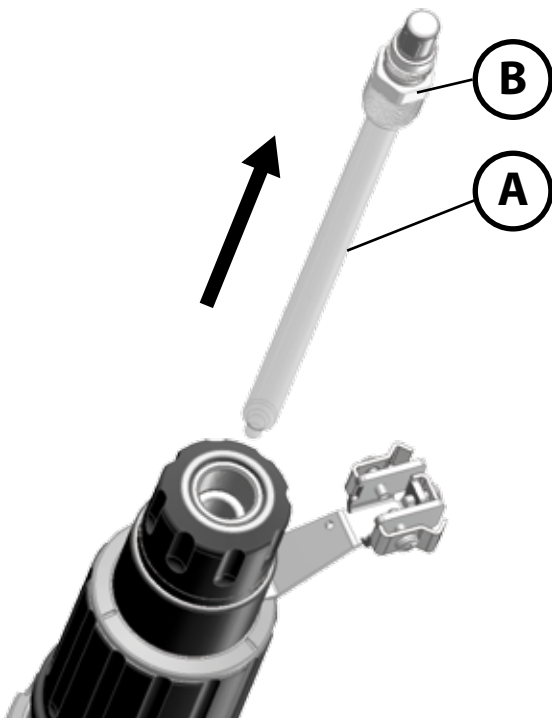
Removing the Sensor

- 1) The sensor must only be removed in **SERVICE position**.
- 2) Remove cable socket with cable (G)
- 3) Before removing the sensor, check that there is no liquid leaking from the outlet (process sealing might be defective).
- 4) Remove the sensor (recommended tool: 19 mm, e.g. Knick ZU0647 wrench).
- 5) Check whether slide washer (C) or O-ring (D) on the sensor are damaged.



Caution!

When replacing damaged sensors (glass breakage), you must check the sensor seal in the immersion tube and replace it if required! (See section "Replacing the Immersion Tube" on Page 24.)



Installing a Liquid-Electrolyte Sensor

You can use sensors with a length of 250 mm and a diameter of 12 mm, e.g. Knick SE551.

To ensure that the electrolyte flows from the reference electrode to the process medium, the gas pressure in the sensor pressure chamber must be 0.5 to 1 bar above that of the process medium. (Observe the maximum pressure for fitting and sensor.)

Gas pressure connection (U) for sensor pressure chamber via connection nipple (dia. 6 mm).

Check whether the sensor is damaged (glass broken?).

Remove watering cap from the sensor tip and rinse sensor with water.

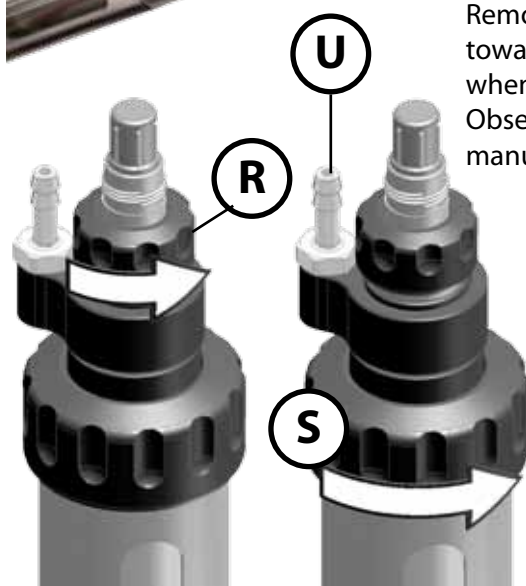


Caution!

In the case of inclined installation, the sensor must be installed as described below to prevent electrolyte from flowing out during operation of the sensor lock-gate. First, move the sensor lock-gate into SERVICE position.

Remove the plug and turn the electrolyte filling hole (W) towards the top to prevent electrolyte from flowing out when the sensor is inclined.

Observe the installation instructions of the sensor manufacturer.

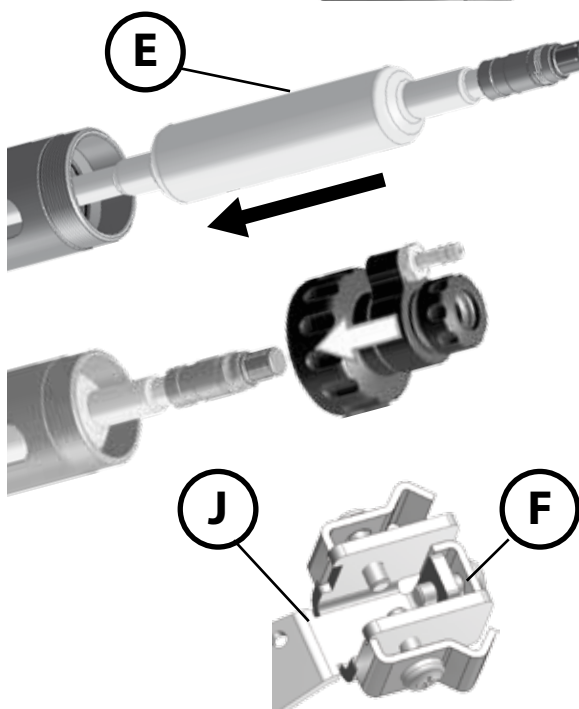


Installing the Sensor

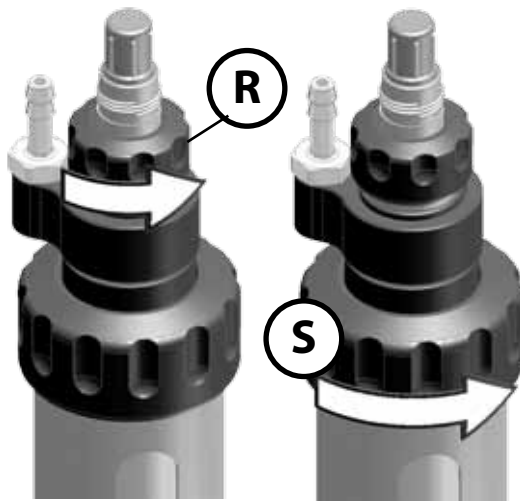
- 1) The sensor must only be removed in **SERVICE position**.
- 2) Loosen small coupling nut (R) – do not remove it.
- 3) Unscrew large coupling nut (S) completely and pull the detached unit upwards.
- 4) Install sensor (E).
- 5) Replace the unit you have detached in step 3. First hand-tighten the large coupling nut (S) and then the small coupling nut (R).
- 6) Connect cable socket and cable. Hold the cable in a loop and fix it using clamp (J).

Caution! The cable loop must be long enough so that the cable does not impede the stroke movement of the fitting.

- 7) Connect equipotential bonding cable to terminal (F) (if required).

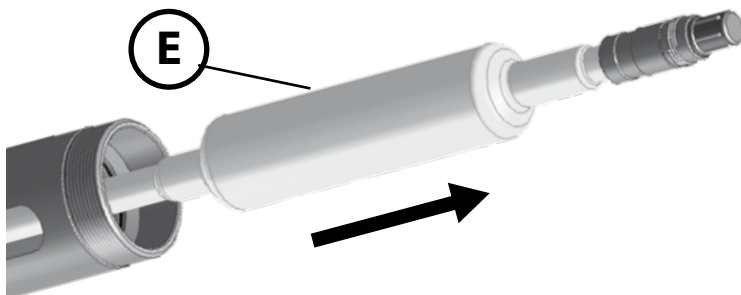


Removing a Liquid-Electrolyte Sensor



Removing the Sensor

- 1) The sensor must only be removed in **SERVICE position**.
- 2) Remove cable socket with cable.
- 3) Before removing the sensor, check that there is no liquid leaking from the outlet (process sealing might be defective).
- 4) Loosen small coupling nut (R) – do not remove it.
- 5) Unscrew large coupling nut (S) completely and pull the detached unit upwards.
- 6) Remove sensor (E).



Removing the Drive Unit

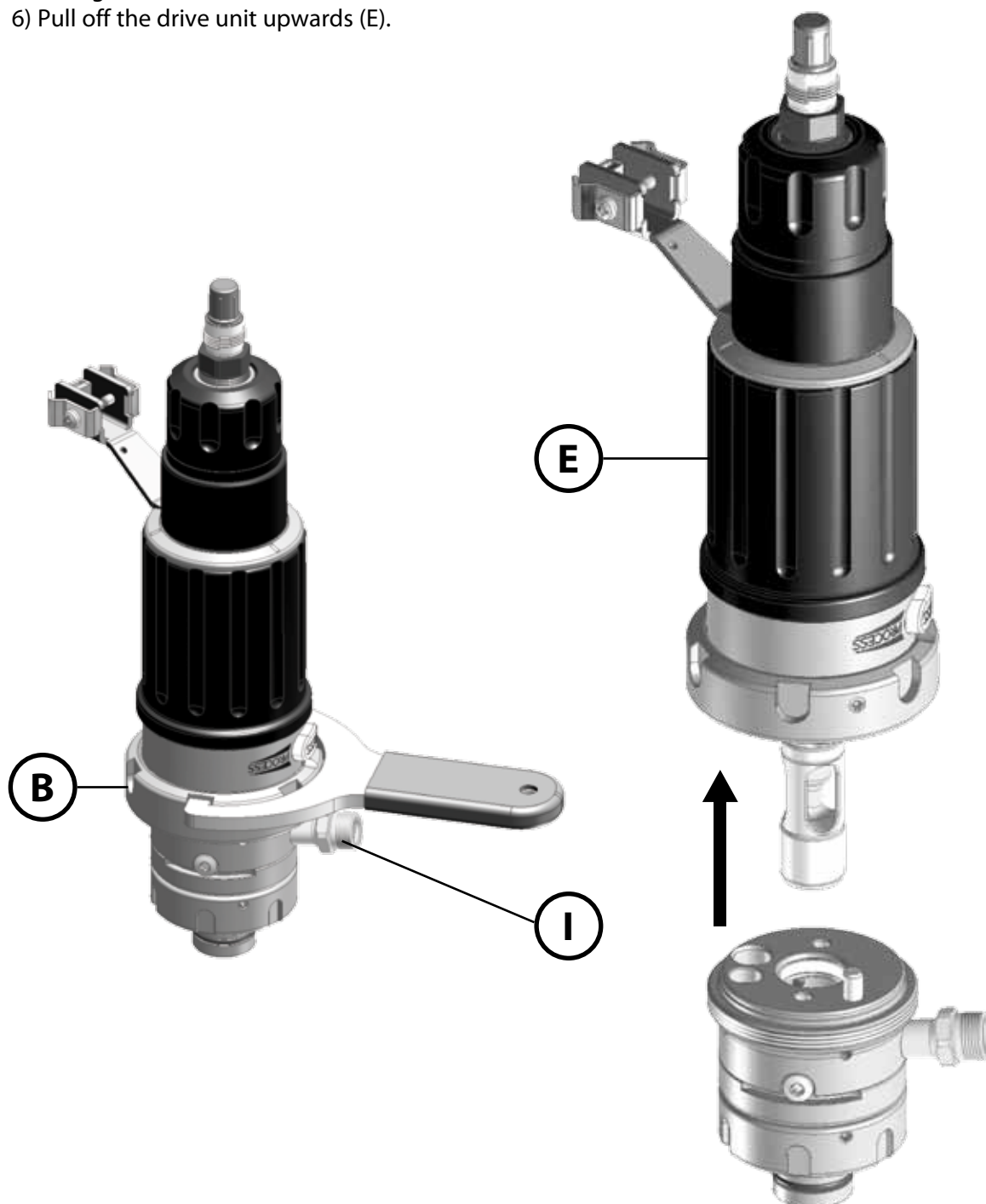
Step-by-Step Instructions

Caution:

Be sure to follow the steps below in the correct order!

Take appropriate safety precautions against escaping process fluids.

- 1) Move probe into SERVICE position.
- 2) Make sure that no process fluid is leaking from the outlet (I).
- 3) If required, remove sensor as described in section "Installing and Removing a Sensor" on Page 17.
- 4) Separate outlet (I), rinse connection (option) and limit switches (option) if required.
- 5) Turn coupling nut (B) counterclockwise (using the ZU 0647 accessory wrench if required – see figure). Do not cant the unit and do not exert force!
- 6) Pull off the drive unit upwards (E).



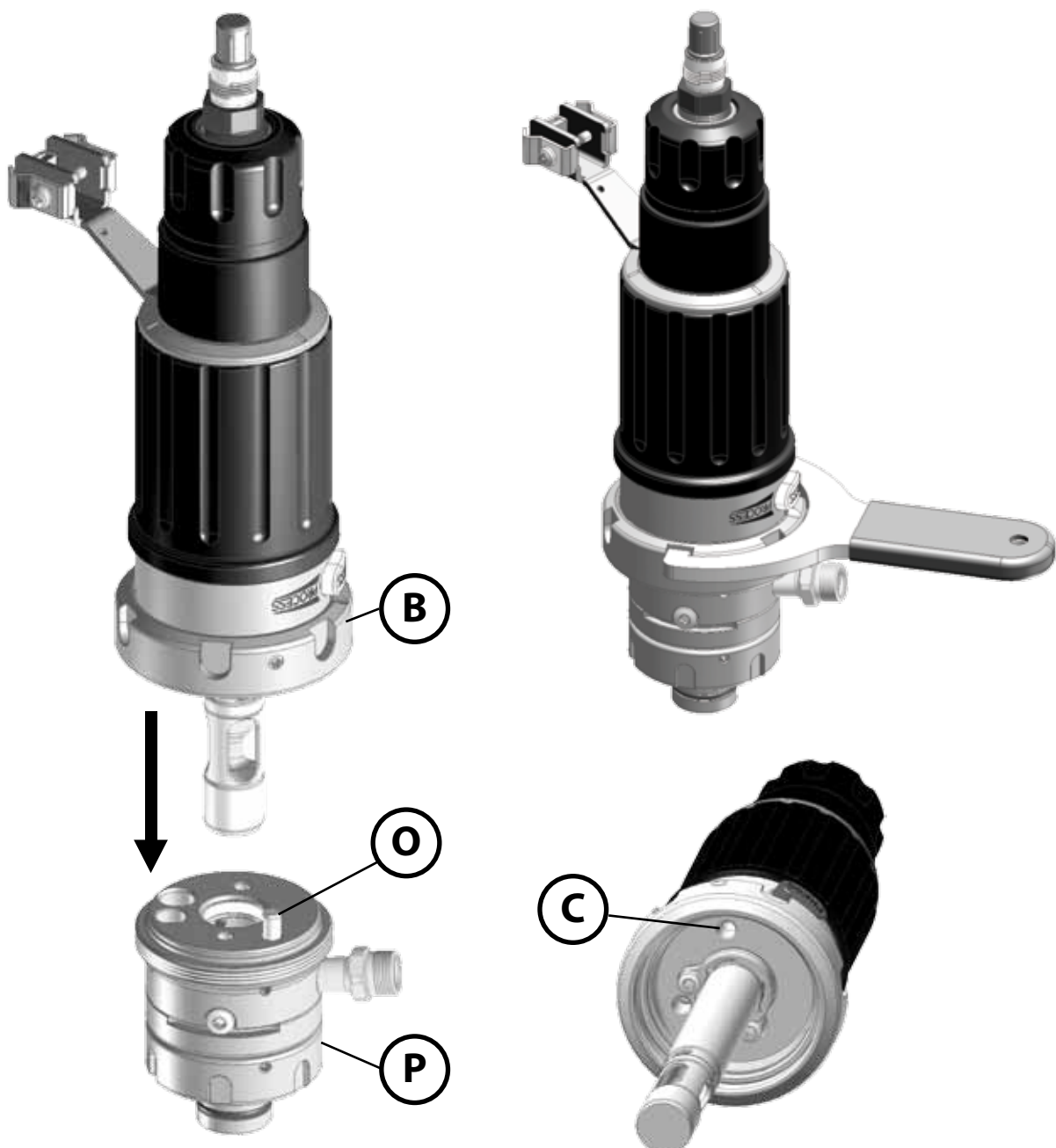
Installing the Drive Unit

Step-by-Step Instructions

Caution:

Be sure to follow the steps below in the correct order!

- 1) Insert the drive unit (in **SERVICE position**) into the process unit (P).
The radial position of the drive unit is determined by a coding pin (O) in the calibration chamber and an opening (C) in the drive unit. You can only engage and tighten the coupling nut when the drive unit is in the correct position.
- 2) Now tighten the coupling nut (B)
(turn clockwise – hand-tight or 10 Nm – using the ZU 0647 accessory wrench if required).
- 3) Install limit switches (option) and outlet (I) if provided.
- 4) Install sensor as described in section “Installing and Removing a Sensor” on Page 17.



Replacing the Immersion Tube

The immersion tube must be removed or replaced:

- for general maintenance
- for cleaning the immersion tube, e.g. after the sensor is broken
- for replacing the sensor gasket (O-ring)
- when an immersion tube made of another material is required
- in the event of a technical fault of the drive unit



Warning!

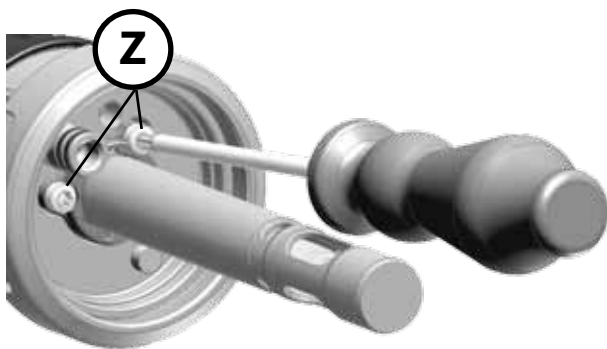
To separate the sensor lock-gate safely from the process, make sure that it is disconnected from all process media and process pressure!

Caution!

Before working on the drive unit, make sure that the sensor lock-gate is in SERVICE position (see "Function Description" on Page 10).

Removing the Immersion Tube

First, separate the drive unit from the process unit. (See "Removing the Drive Unit" on Page 22.)

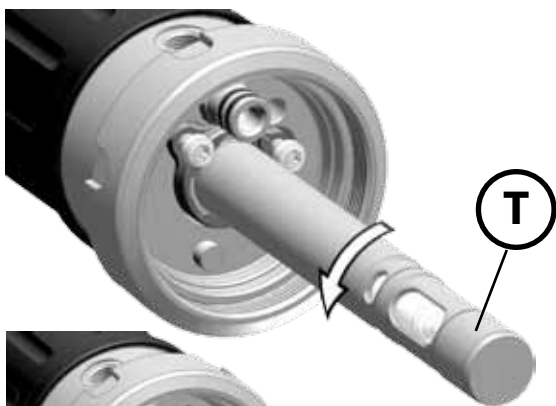


- 1) Move the sensor lock-gate to PROCESS position.

Caution! Do not remove the sensor.

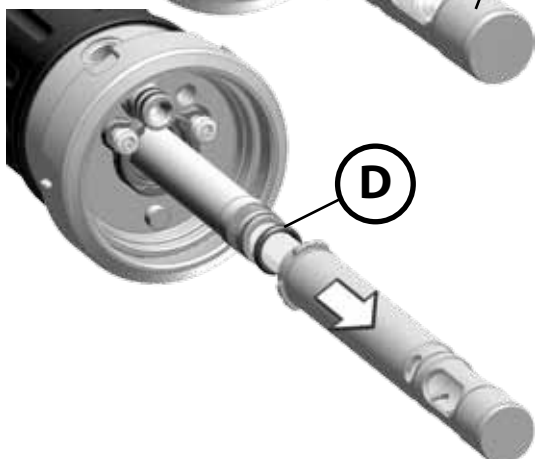
The sensor lock-gate can only be moved with the sensor installed (safety function only for sensors with gel electrolyte).

- 2) In PROCESS position two screws (Z) are accessible.
- 3) Loosen the two screws (Z) by approx. 4 turns using a screwdriver (Tx25) (do not remove them).



- 4) Turn the immersion tube (T) counterclockwise by approx. 60°.

- 5) The bayonet coupling opens and the immersion tube (T) can be pulled out in direction of the arrow.

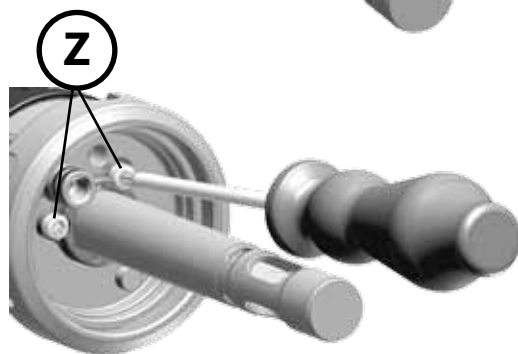
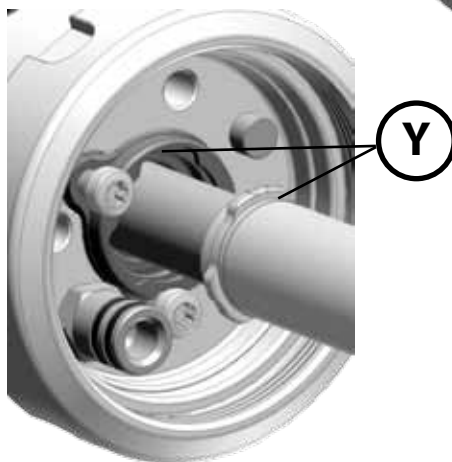
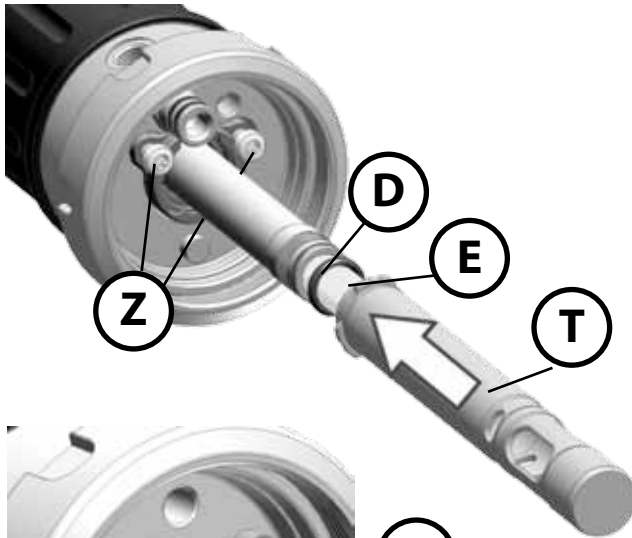


- 6) Now, O-ring (D) (sensor gasket) is visible. Check and replace if required. (For O-ring dimensions, see Page 42 "Sealing Kits for Maintenance and Servicing")

Note:

Contrary to the figure, the O-ring may still be in the immersion tube. From there, you can easily remove it.

Installing the Immersion Tube



- 1) Check whether the drive unit is in PROCESS position. If required, move the drive unit into PROCESS position.

Caution! Do not remove the sensor.

The sensor lock-gate can only be moved with the sensor installed (safety function for sensors with gel electrolyte).

- 2) Push the O-ring (D) (sensor gasket) onto the sensor (E) as shown.

Note: Make sure that there is no further O-ring in the immersion tube (T) (installed by mistake). (For O-ring dimensions, see Page 42 "Sealing Kits for Maintenance and Servicing")

- 3) Loosen the two screws (Z) by approx. 4 turns (do not detach them) if you have not done that when removing the immersion tube.
- 4) Push the immersion tube (T) in direction of the arrow and insert it in the bayonet coupling (Y).

- 5) Press the tube firmly in place and then turn it clockwise until the stop (approx. 60°).

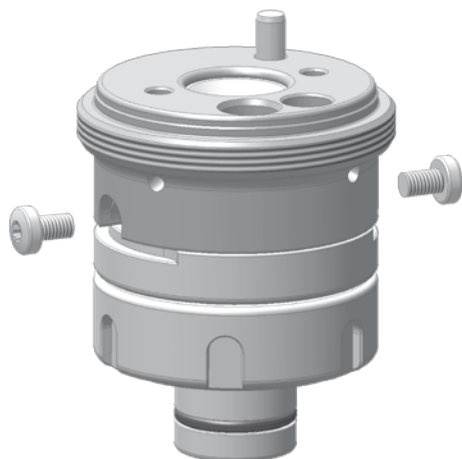
- 6) Fasten the two screws (Z) using a screw-driver (TX25).

Note:

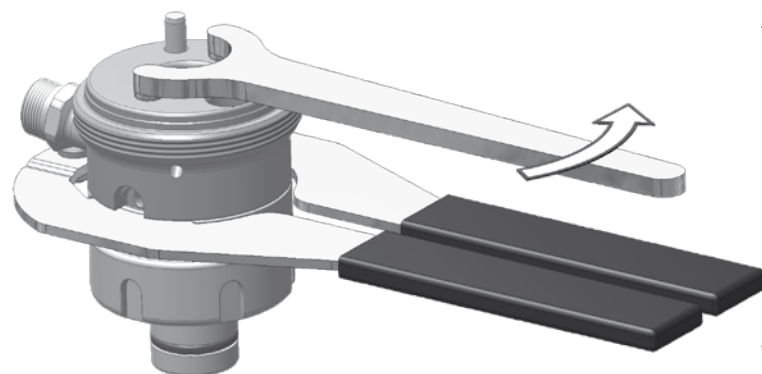
The bayonet coupling is locked by the form-fit screw heads. The immersion tube, however, remains movable to compensate for tolerances.

Removing and Installing the Calibration Chamber

To separate the calibration chamber, you require ZU 0754 or ZU 0740 Service Set (see Accessories). We recommend the ZU 0746 and ZU 0747 mounting aids for proper mounting of the gaskets and scraper rings (see "Accessories" on Page 36).



- 1) Remove the screws (screwdriver TX25).



- 2) Position a plier and loosen the thread of the split calibration chamber using a face pin spanner wrench.



- 3) Completely screw off the split calibration chamber. Now, the gaskets are accessible and can be checked and replaced if required. Use the ZU 0746 and ZU 0747 mounting aids for mounting the gaskets and scraper rings.

How to handle the mounting aids is described in the respective instruction manual.

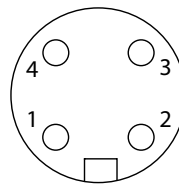
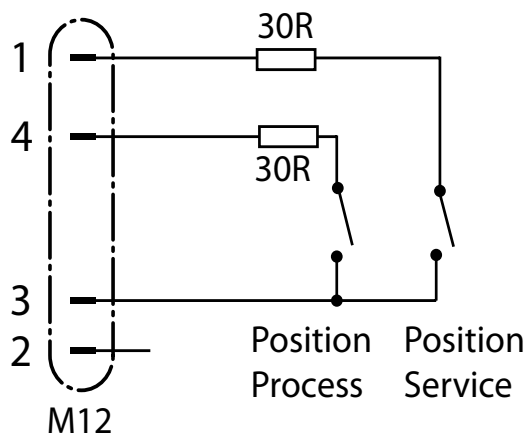
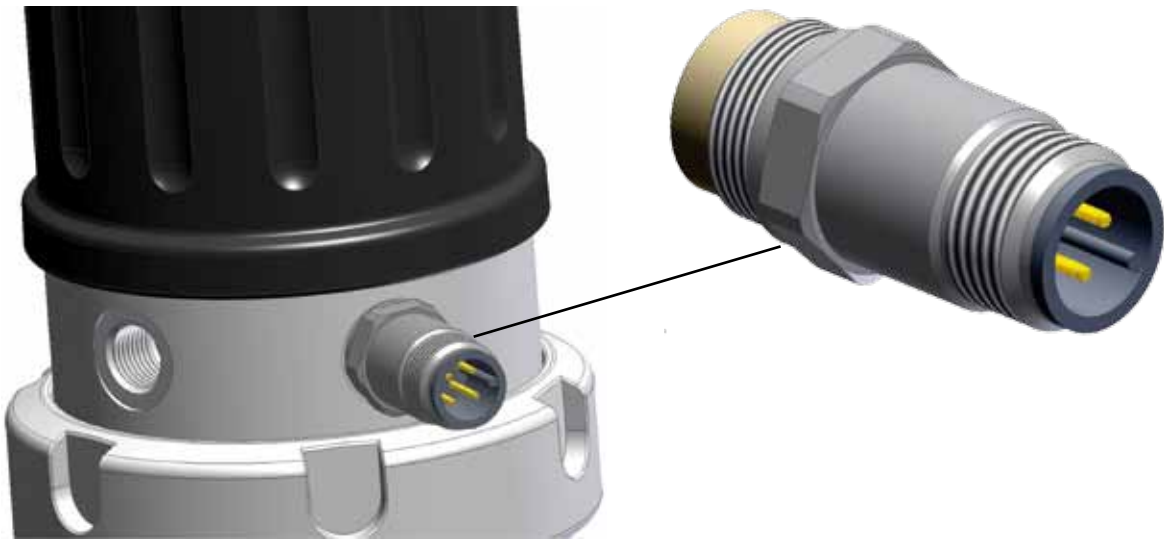


- 4) To re-install the split calibration chamber, screw the parts together using plier and face pin spanner wrench and secure them with screws.

Note:

The calibration chamber parts must be firmly screwed together (until the stop is reached) before it can be secured with the two screws.

Limit Switches (Option)



Limit Switches

- Reed contacts, normally open
- Contact resistance (closed):
 - 30 Ω against GND
- Max. switching voltage: 30 V DC
- Max. switching current: 0.1 A

Important Notice:

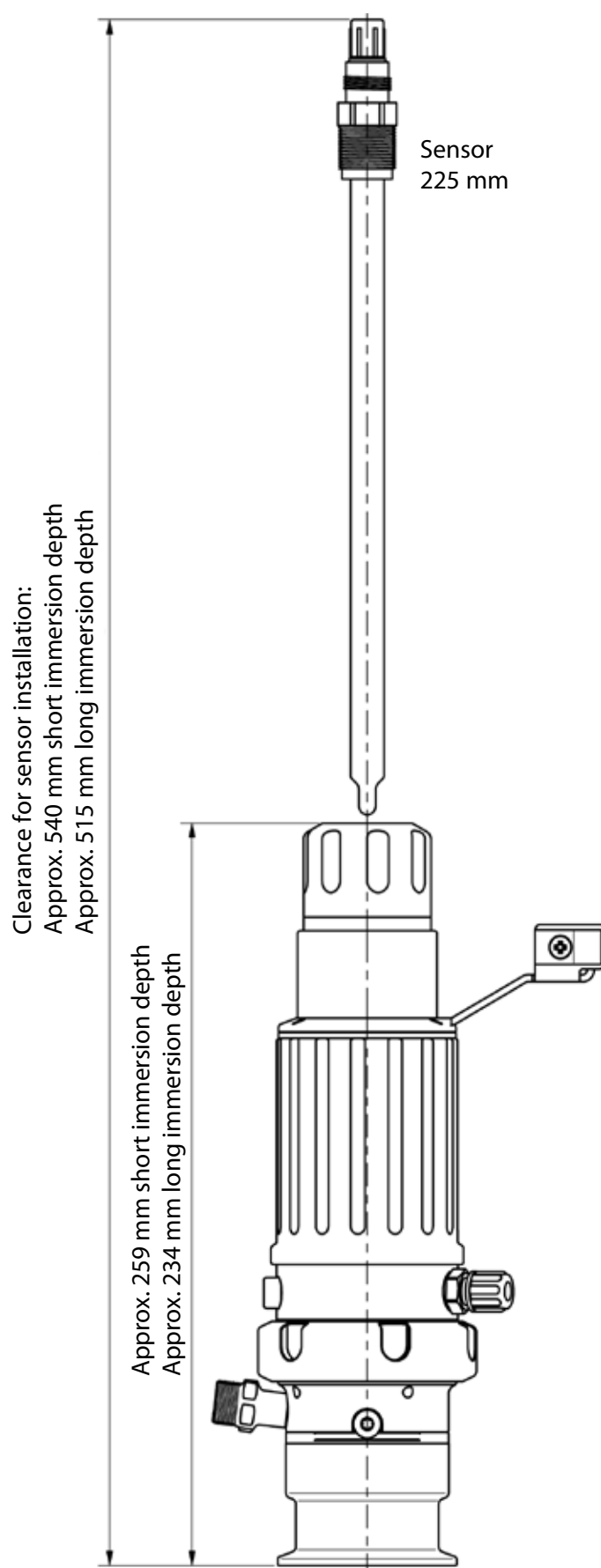
Reed contacts are sensitive to overrange conditions, even if momentary (e.g. due to cable capacitance or inductance)!

Connection

M12 connector
to IEC 60947-5-2, 4 pins

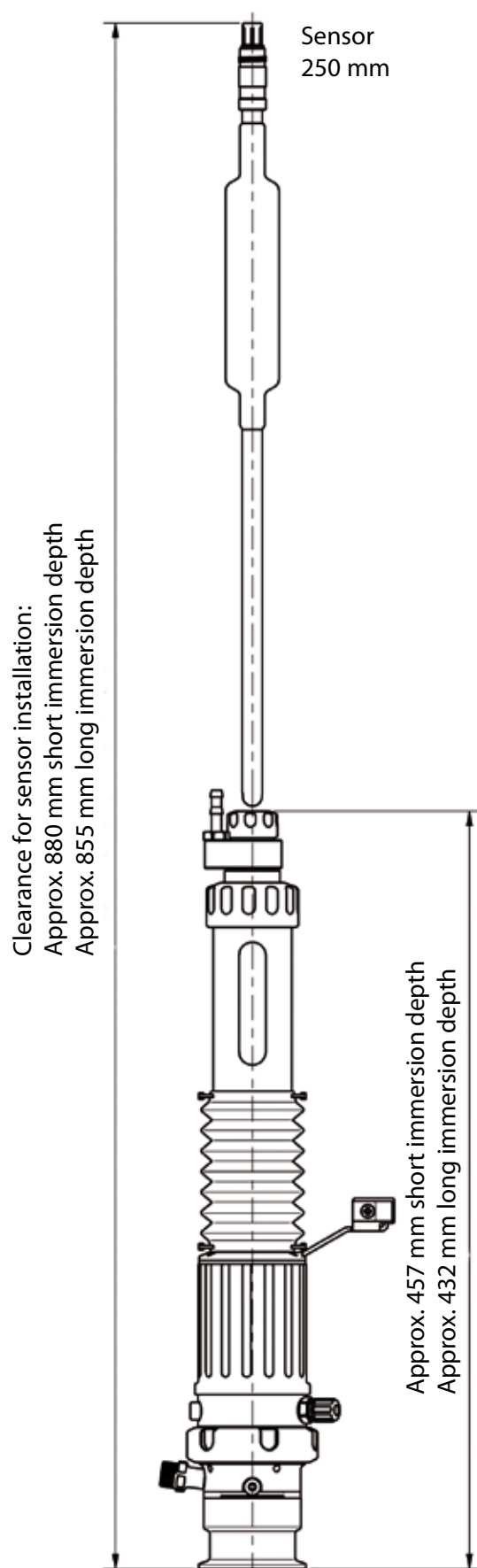
Installation Dimensions

WA 130 MH for sensors with gel electrolyte



Installation Dimensions

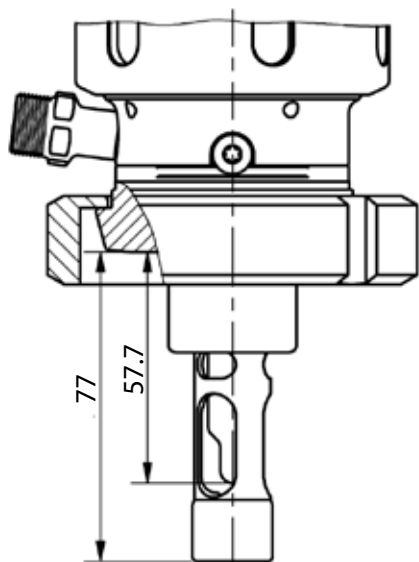
WA 130 MH for sensors with liquid electrolyte



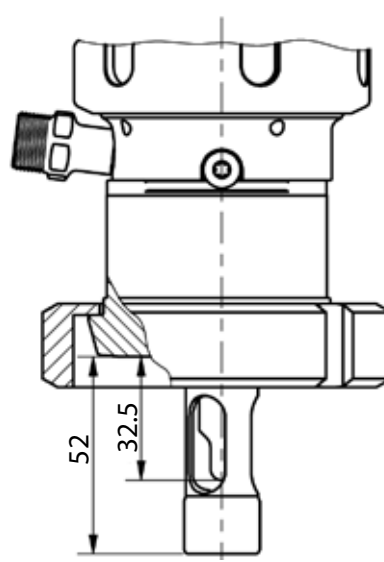
Immersion Depths

SensoGate® WA 130 MH process adaptations dairy pipe TriClamp

Process Adaptation Dairy Pipe, 11851, DN 50 ... DN 100

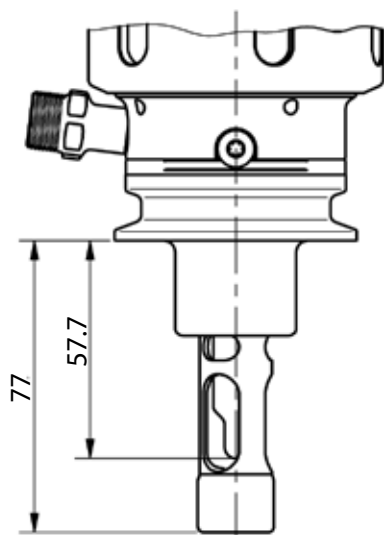


Long immersion depth

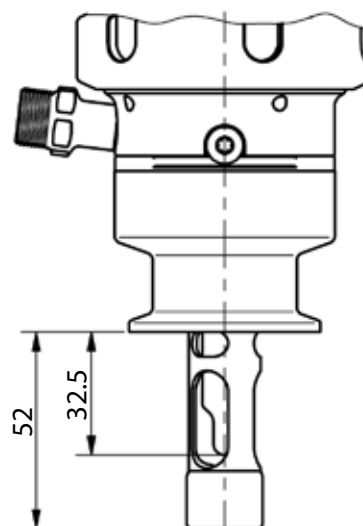


Short immersion depth

Process Adaptation Clamp 1" ... 3.5"



Long immersion depth

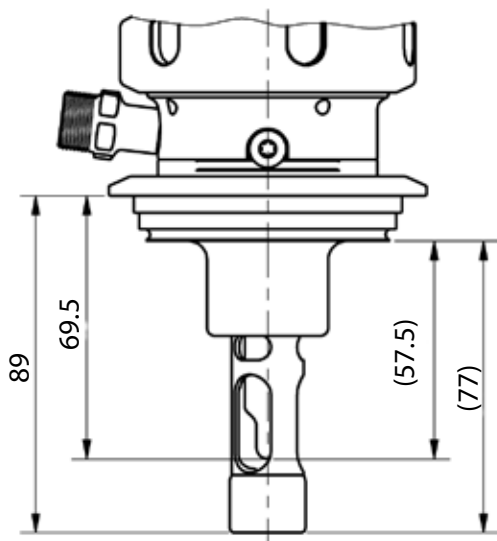


Short immersion depth

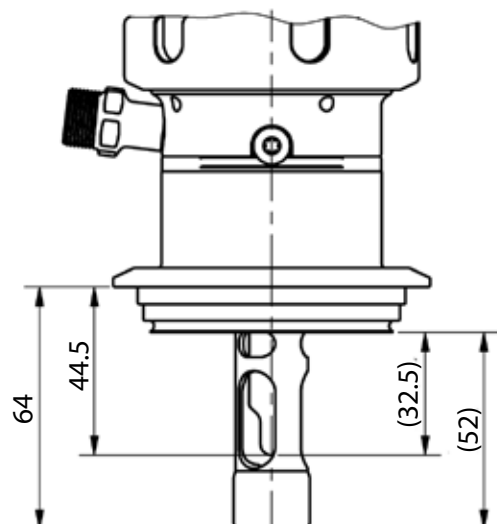
Immersion Depths

SensoGate® WA 130 MH process adaptation Varivent

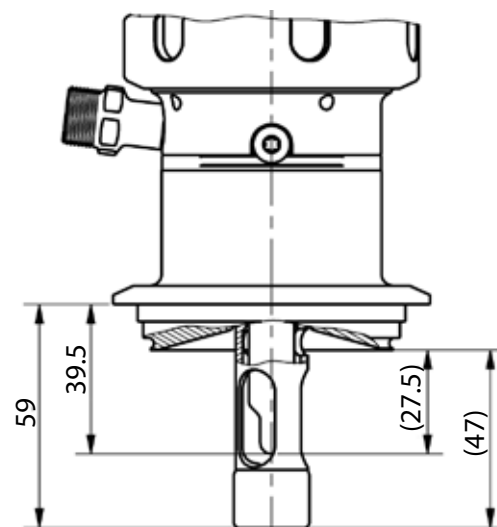
Process Adaptation Varivent $\geq$ DN 80 Long Immersion Depth



Process Adaptation Varivent $\geq$ DN 65 Short Immersion Depth



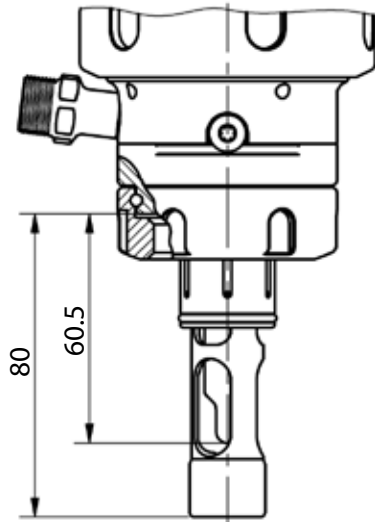
Process Adaptation Varivent $\geq$ DN 50 Long Immersion Depth



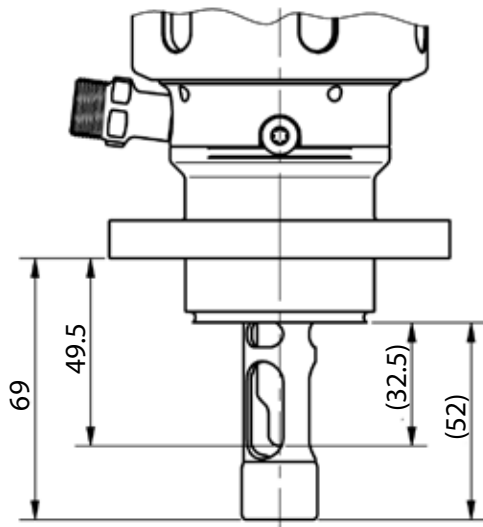
Immersion Depths

SensoGate® WA 130 MH process adaptations Ingold socket, BioControl

Process Adaptation Ingold Socket, 25 mm



Process Adaptation BioControl DN 50 or DN 65



Specifications

SensoGate® WA 130 MH

Permissible process pressure and temperature during movement

Process adaptation 1.4404

10 bars (at 0 ... 140 °C)

Permissible process pressure and temperature, statically in SERVICE position

16 bars (at 0 ... 40°C)

Ambient temperature

-10 ... 70 °C

Ingress protection

IP 66

Housing material

Stainless steel / PP or stainless steel / PEEK

Sensors

with gel electrolyte

Ø12 mm, length 225 mm with temp detector, Pg 13.5 thread

with liquid electrolyte

Ø12 mm, length 250 mm with temp detector

Process adaptations

Dairy pipe, DIN 11851

DN50 to DN100

Ingold socket, 25 mm

25 mm

Clamp 1.4404

Clamp 1" to 3.5"

Varivent 1.4404

for pipes $\geq$ DN 50, $\geq$ DN 65 short, $\geq$ DN 80 long

BioControl 1.4404

Size 50, size 65

Connections

Rinse and calibration media (optional)

Internal thread $G^{1/8}$, hose coupling $G^{1/8}$ -DN $4/6$

Outlet

Outlet hose, NW 8 EPDM 3m

for pressurized sensors

Hose connection NW6, pressure in sensor chamber 0.5 ... 1 bar above process pressure (max. 7 bars)

Immersion depths / Installation dimensions

See dimension drawings

Process-wetted materials

See order code

Maintenance Intervals

SensoGate® WA 130 MH

The following maintenance intervals are recommended:

After a few weeks	First inspection to check the seals under process pressure and make sure that the correct materials are used.
After 3 – 6 months or 5,000 – 10,000 strokes (earlier for aggressive or abrasive media)	Checking and replacing (if required) the process-wetted (dynamically loaded) gaskets
After 12 – 24 months	Checking and replacing (if required) the gaskets in contact with rinse medium
After 3 – 5 years	Maintenance of wear parts and gaskets with relubrication at the factory

These maintenance intervals are recommendations.

The actual intervals depend on the application of the sensor lock-gate.

Accessories / Spare Parts

Overview for SensoGate® WA 130 MH

Accessories

Order No.

Service set, basic	ZU 0680
Service set, maintenance, repair, retrofit	ZU 0740
Service set, calibration chamber	ZU 0754
Sensor mounting wrench, 19 mm	ZU 0647
Mounting aid for 20x2.5 O-rings	ZU 0747
Mounting aid for scraper ring	ZU 0746
Protective cap (for gel electrolyte only)	ZU 0759
Air supply for pressurized sensors, 0.5 - 4 bars	ZU 0670/1
Air supply for pressurized sensors, 1 - 7 bars	ZU 0670/2
Hose, 20 m (extension for ZU 0670)	ZU 0713
Retainer clamp for Ingold socket, 25 mm	ZU 0818
Safety weld-in socket, straight	ZU 0717
Safety weld-in socket, beveled 15°	ZU 0718
Safety weld-in socket, straight, adapted for DN50	ZU 0717/DN50
Safety weld-in socket, straight, adapted for DN65	ZU 0717/DN65
Safety weld-in socket, straight, adapted for DN80	ZU 0717/DN80
Safety weld-in socket, straight, adapted for DN100	ZU 0717/DN100
Safety weld-in socket, 15°, adapted for DN50	ZU 0718/DN50
Safety weld-in socket, 15°, adapted for DN65	ZU 0718/DN65
Safety weld-in socket, 15°, adapted for DN80	ZU 0718/DN80
Safety weld-in socket, 15°, adapted for DN100	ZU 0718/DN100

Spare Parts

Order No.

Bellows (for liquid-electrolyte sensors)	ZU 0739
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Accessories

SensoGate® WA 130 MH



ZU 0680

SensoGate® Service Set, Basic

These tools are suitable for minor maintenance operations. They help separating the drive unit from the process unit, allow mounting an Ingold socket and replacing the immersion tube including sensor gasket maintenance.



ZU 0754

SensoGate® Calibration Chamber Service Set

These tools are suitable for maintenance operations at the calibration chamber and its gaskets. They allow easy separation of the split calibration chamber.



ZU 0740

SensoGate® Service Set Maintenance/Repair/Retrofit

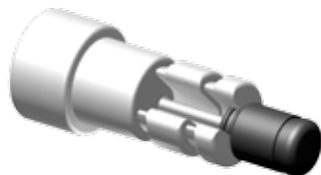
This set provides all tools required for comprehensive maintenance, repair or retrofitting of the sensor lock-gate. With this set, you can completely dismantle every SensoGate®.



ZU 0647

Sensor Mounting Wrench

Required for safely screwing in the sensor without overloading the Pg 13.5 plastic thread of the sensor head by an excessive torque (caused by an open-end wrench).



ZU 0747

Mounting Aid for 20 x 2.5 O-Rings

The ZU 0747 mounting aid is used for easy and correct fitting of the 20x2.5 O-rings in the calibration chamber of the Sensogate®.

Accessories

SensoGate® WA 130 MH



ZU 0746

Mounting Aid for Scraper Ring

The ZU 0746 mounting aid is used for easy and correct fitting of the scraper rings in the calibration chamber of the Sensogate®.

ZU 0670/1

Air Supply for Pressurized Sensors

0.5 – 4 bars



ZU 0670/2

Air Supply for Pressurized Sensors

1 – 7 bars

This module maintains the defined overpressure in the pressure chamber of the sensor.



ZU 0818

Retainer Clamp for 25mm Socket (Ingold)

The ZU 0818 retainer clamp is only suitable for Ingold sockets. It prevents unintended loosening or twisting of the coupling nut or the fitting from the tank port, thus avoiding possible hazards. Even if the coupling nut is not properly tightened (due to incorrect mounting, vibrations, or the like), it cannot loosen any further (increased safety!).

Accessories

SensoGate® WA 130 MH



ZU 0759 **Protective Cap**

The ZU0759 protective cap protects against intrusion of liquids or particles into the area of the electrical connector of a sensor (e.g. due to weather exposure during outdoor use).

Caution! Can only be used with fittings for gel-electrolyte sensors.



Safety Weld-in Socket, Straight
adapted to DN50 **ZU 0717/DN50**
adapted to DN65 **ZU 0717/DN65**
adapted to DN80 **ZU 0717/DN80**
adapted to DN100 **ZU 0717/DN100**



Safety Weld-in Socket, Beveled 15°
adapted to DN50 **ZU 0718/DN50**
adapted to DN65 **ZU 0718/DN65**
adapted to DN80 **ZU 0718/DN80**
adapted to DN100 **ZU 0718/DN100**

The weld-in sockets are suitable for mounting fittings with Ingold socket (Ø 25 mm, G1 ¼). The contour-optimized straight and beveled (15°) weld-in sockets are adapted to the nominal width of the pipeline (outer diameter). This minimizes the gap widths during welding. The sockets are designed in a way that the thicknesses of socket and pipe wall are similar at the welding point. This allows welding with low energy input and therefore reduced warping.

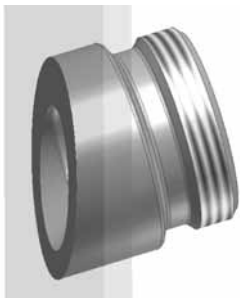
Accessories

SensoGate® WA 130 MH



ZU 0717 **Safety Weld-in Socket, Straight**

The safety weld-in sockets (straight) are suitable for mounting fittings with Ingold socket (Ø 25 mm, G1 ¼) to plane tank walls.



ZU 0718 **Safety Weld-in Socket, Beveled 15°**

The safety weld-in sockets (beveled 15°) are suitable for mounting fittings with Ingold socket (Ø 25 mm, G1 ¼) to plane tank walls.

Spare Parts

SensoGate® WA 130 MH



ZU 0739 Bellows

The bellows (for liquid-electrolyte sensors only) protects the fitting beneath the sensor pressure chamber against pollution and wear.

Sealing Kits for Maintenance and Servicing

SensoGate® WA 130 MH

The sealing kits are available in different materials.

The smaller sealing kits ("Set X/1") only contain gaskets for direct contact with the process.

The extended sealing kits ("Set X/2") also include gaskets for contact with the rinse medium.

Caution! Take account of the process adaptations.

Special sealing kits are available for Ingold sockets.

The sealing kits come with detailed illustrations for installation.

The new gaskets must be lubricated with the included lubricant.

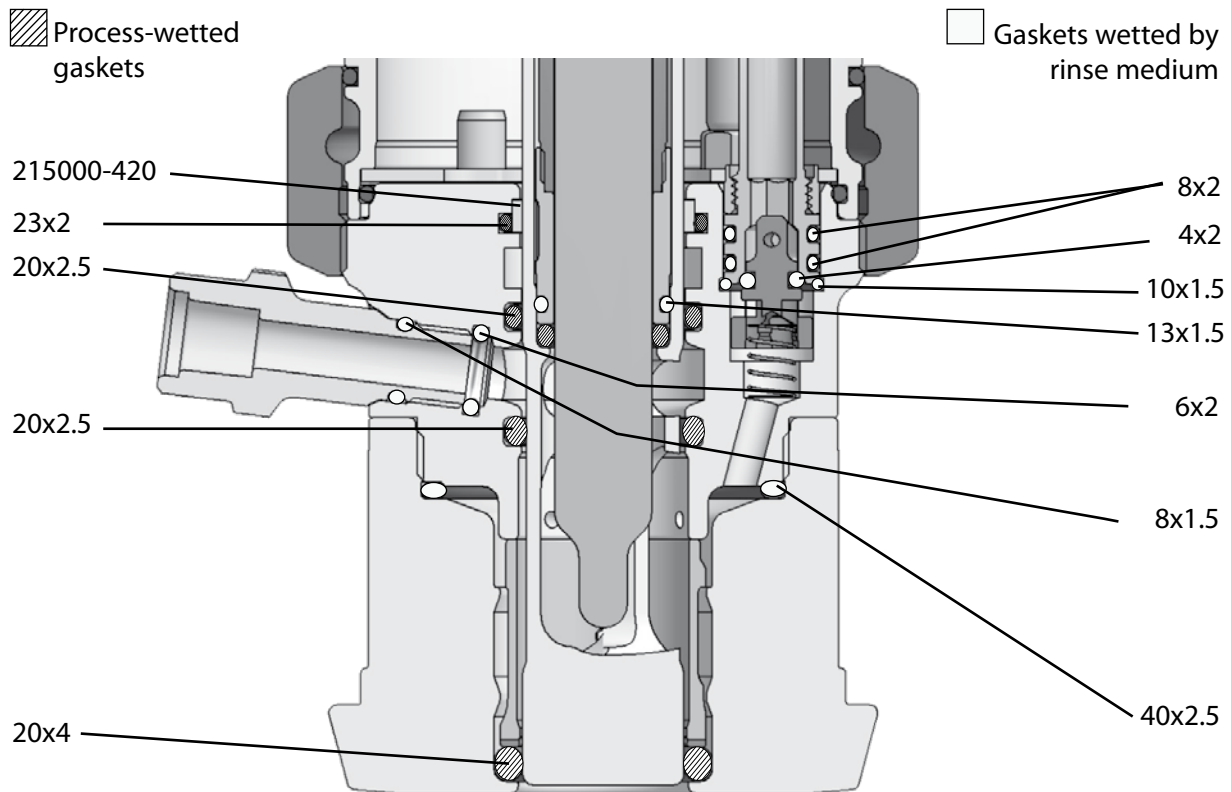
The following sealing kits are available:

Gaskets			Order No.
Process connection dairy pipe, Tri-Clamp, Varivent, BioControl	Set E/1	Process-wetted sealing material: EPDM FDA	ZU 0700/1
	Set E/2	Process-wetted sealing material: EPDM FDA, wetted by rinse medium: EPDM FDA	ZU 0700/2
	Set F/1	Process-wetted sealing material: FKM FDA	ZU 0697/1
	Set F/2	Process-wetted sealing material: FKM FDA, wetted by rinse medium: FKM FDA	ZU 0697/2
	Set G/1	Process-wetted sealing material: FFKM FDA	ZU 0766/1
	Set G/2	Process-wetted sealing material: FFKM FDA, wetted by rinse medium: EPDM FDA	ZU 0766/2
	Set H	Process-wetted sealing material: FFKM FDA, wetted by rinse medium: FFKM FDA	ZU 0767
Process connection Ingold socket	Set E/1	Process-wetted sealing material: EPDM FDA	ZU 0704/1
	Set E/2	Process-wetted sealing material: EPDM FDA, wetted by rinse medium: EPDM FDA	ZU 0704/2
	Set F/1	Process-wetted sealing material: FKM FDA	ZU 0703/1
	Set F/2	Process-wetted sealing material: FKM FDA, wetted by rinse medium: FKM FDA	ZU 0703/2
	Set G/1	Process-wetted sealing material: FFKM FDA	ZU 0768/1
	Set G/2	Process-wetted sealing material: FFKM FDA, wetted by rinse medium: EPDM FDA	ZU 0768/2
	Set H	Process-wetted sealing material: FFKM FDA, wetted by rinse medium: FFKM FDA	ZU 0769

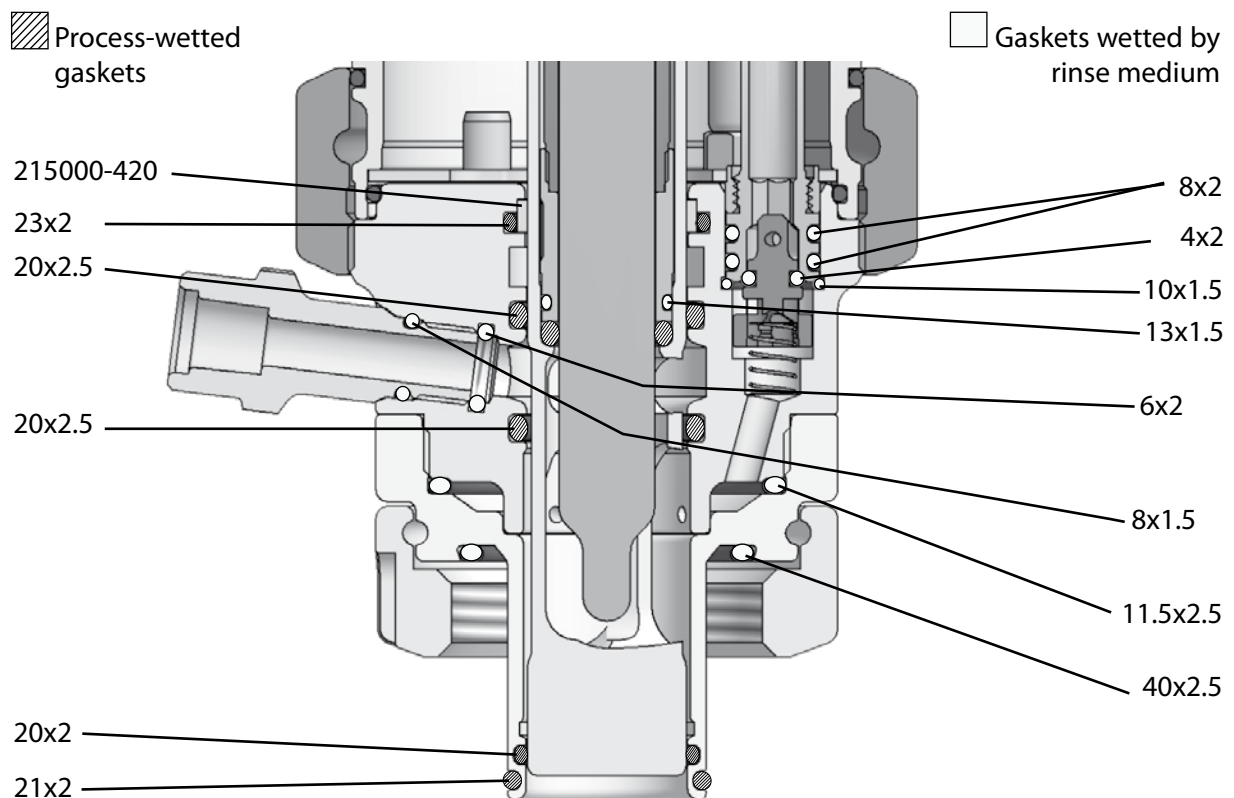
Sealing Kits for Maintenance and Servicing

SensoGate® WA 130 MH

Process Adaptation Dairy Pipe, Tri-Clamp, Varivent, BioControl



Process Adaptation Ingold Socket



Declaration of Contamination

SensoGate® WA 130 MH



Declaration on the potential hazards presented by the enclosed devices/sensors

For acceptance and execution of your order we require this completed declaration form. Please enclose it with the shipping documents.

Customer data

Company name: _____

Address: _____

Contact person: _____ Phone: _____

Device/sensor specifications

Sensor: _____
(Catalog number)

Serial no. _____

Your order number: _____

Knick order confirmation no.: _____

Included accessories: _____

Reason for return of product: _____

Warning notices as to the medium in which the device/sensor has been used (please tick where applicable):

☐		☐			☐			☐		
☐	harmless	☐	harmful/ irritant	☐	toxic / corrosive	☐	oxidizing / explosive	☐	infectious / radioactive	

Cleaning measures taken before shipment (cleaning methods and cleaning agents used):

1. _____
2. _____
3. _____
4. _____

I herewith declare that the shipped parts do not pose any health hazards for employees of Knick Elektronische Messgeräte GmbH & Co. KG. I further declare that I have answered the questions above truthfully and to the best of my knowledge. I understand that I may be held liable for any damage resulting from false or incorrect information.

Name: _____ Company: _____

Date: _____ Signature: _____

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